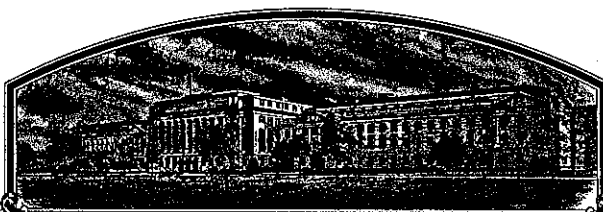


No.

8100070



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Nickerson American Plant Breeders, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE  
**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (TAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CLOVER

'Redland II'



Attest:

*Kenneth A. Evans*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 30th day of April in the year of our Lord one thousand nine hundred and eighty-seven.

*Richard E. Lyng*  
Secretary of Agriculture

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY <b>NAPB 7601</b>		1b. VARIETY NAME <b>Redland II</b>		FOR OFFICIAL USE ONLY PV NUMBER <b>8100070</b>	
2. KIND NAME <b>Red Clover</b>		3. GENUS AND SPECIES NAME <b>Trifolium pratense L.</b>		FILING DATE <b>3/9/81</b>	TIME <b>2:30</b> <b>A.M.</b>
4. FAMILY NAME (BOTANICAL) <b>Leguminacea</b>		5. DATE OF DETERMINATION <b>January 1976</b>		FEE RECEIVED \$ <b>500.00</b> \$ <b>250.00</b>	DATE <b>3/9/81</b> <b>4/2/87</b>
6. NAME OF APPLICANT(S) <b>North American Plant Breeders NICKERSON AMERICAN PLANT BREEDERS, INC.</b>		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>5201 Johnson Drive, P. O. Box 2955, Mission, Kansas 66201</b>		8. TELEPHONE AREA CODE AND NUMBER <b>(913) 384-4940</b>	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) <b>Corporation</b>		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION. <b>Connecticut</b>		11. DATE OF INCORPORATION <b>March 9, 1973</b>	

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE  
**Dr. RALPH PAPERS, NICKERSON**  
**Mr. GILES DIXON, North American Plant Breeders, P. O. Box 2955, Mission, Kansas 66201**  
**Dr. Jim B. Moutray, North American Plant Breeders, RR 3, Ames, Iowa 50010**

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)

☒ 13B. Exhibit B, Novelty Statement.

☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)

☒ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☐ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

**2-2-81**

(DATE)

**1-22-81**

(DATE)

**[Signature]**  
(SIGNATURE OF APPLICANT)

**[Signature]**  
(SIGNATURE OF APPLICANT)

# INSTRUCTIONS

**GENERAL:** Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

## ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

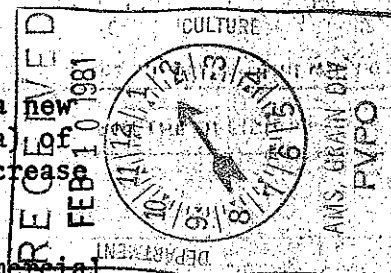
13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



8100070

Exhibit A

Origin and Breeding History of the Variety

'Redland II'

'Redland II' is a 12 clone synthetic variety selected from the variety 'Redland'. Beginning in 1972, the variety 'Redland' was screened at Brookston, Indiana, in the greenhouse, for resistance to northern anthracnose and powdery mildew, followed by further field selection at Brookston for powdery mildew resistance and persistence.

Prebreeder seed was produced on vegetative propagules of the 12 parent clones at Brookston, Indiana under field isolation.

During seed multiplication, no variants beyond the limits defined under Exhibit C have been found, and multiplication procedures will ensure that seed being sold as 'Redland II' will not be shifted in characteristics beyond presently acceptable limits for red clover varieties.

It is also confirmed that 'Redland II' meets presently acceptable levels of uniformity for red clover varieties.

8100070

Exhibit B

Novelty Statement

'Redland II'

'Redland II' most closely resembles the variety 'Redland'. It differs from 'Redland' by having resistance to powdery mildew and northern anthracnose, while 'Redland' is susceptible to both diseases (See attached data).

8100070

Table 1

1979 seeded red clover trial, North American Plant Breeders, Ames, Iowa

<u>Variety</u>	<u>Southern Anthracnose<sup>1</sup></u> <u>August 15, 1980</u>
Kenstar	2.20
Redland	2.50
Redland II	2.50
Flare	2.25
Arlington	5.40
LSD .05	1.40

<sup>1</sup> Southern anthracnose infection: 1 = least, 9 = 70% or more

8100070

Table 2

1980 Seeded red clover trial, North American Plant Breeders, Ames, Iowa

<u>Variety</u>	<u>Powdery Mildew Rating<sup>1</sup></u> <u>August 15, 1980</u>
Kenstar	3.6
Redland	3.8
Redland II	1.2
Flare	2.2
Arlington	1.0
LSD .05	.77

<sup>1</sup> Powdery mildew infection: 1 = Least, 6 = 70% infected.

## Performance of 1979 SEEDED Red Clover Varieties

Arlington Experiment Station (Exp 7901) a/

Strain	1980 <sup>b/</sup> Yield	NA <sup>c/</sup>	Flower 6-11-80	Summer Black Stem	Stand 10-21-80
Arlington	2.48	1.8	14	3.1	76
NK 78044	2.46	1.6	5	2.8	79
Florex	2.55	2.0	14	3.5	74
Kenstar	2.55	3.9	19	3.0	71
Redmore	2.72	2.6	19	2.8	76
Florie	2.62	2.3	13	3.8	80
Flare	2.77	2.9	16	3.0	71
Redland II	2.79	2.4	21	2.8	73
Prosper I	2.67	2.1	19	3.0	76
NK 78045	2.54	1.8	13	2.8	76
Tristan	2.81	2.1	26	3.0	80
NK 78001	2.65	2.6	13	2.5	76
NK 78023	2.92	1.9	18	2.5	77
NK 78042	2.64	1.6	19	2.8	71
NK 78122	2.59	3.3	18	3.0	74
Penascott	2.60	4.8	25	4.0	59
Common	2.29	3.0	26	4.3	36
C735	2.18	1.8	10	2.5	67
HC4	2.50	1.6	10	2.8	64
C736	2.23	1.6	6	2.8	60
Redman	2.42	2.9	21	3.0	71
<del>Redmore</del>	<del>2.69</del>	<del>2.7</del>	<del>20</del>	<del>2.5</del>	<del>75</del>
Lakeland	2.53	2.3	20	3.0	40
Mean	2.58	2.4	17	3.0	70
LSD(5%)	0.40	0.6	5	0.6	11
CV(%)	11.1	18.0	20.9	13.5	11.4

a/ Location: Madison, WI

Soil: Parr Silt Loam

Seeding Method: Drilled 11.2 cm rows

Seeded: May, 1978

Design: RCB w/4 reps

Cuts: 2

Plot Size: .9 X 7.6m

b/ Yield = Tons Dry Matter per Acre

c/ NA = Northern anthracnose - 1 = no symptoms; 5 = severe symptoms, over 90% of plants with symptoms.

By Dr. R.R. Smith Madison, Wisconsin



8100070

Performance of 1978 SEEDED Red Clover Varieties

Ashland Experiment Station (Exp 7804) <sup>a/</sup>

Strain	Yield <sup>b/</sup>			% of Arling- ton	NA <sup>c/</sup>	% Stand		
	1979	1980	79-80			9-28-79	5-20-80	10-2-80
Arlington	2.24	2.93	5.17	100	1.8	89	91	89
Kenstar	2.71	2.43	5.14	99	4.4	85	78	69
Lakeland	2.50	2.77	5.27	102	2.4	90	89	78
Florex	2.56	2.70	5.26	102	2.4	83	70	58
Prosper I	2.45	3.01	5.46	106	1.9	86	88	78
Redman	2.32	2.76	5.08	98	2.0	85	72	79
Redmore	2.52	2.43	4.98	96	2.4	90	81	71
Redland	2.62	2.39	5.01	97	4.9	78	72	60
Norlac	1.70	1.58	3.28	63	1.8	68	58	23
Common	2.64	2.08	4.72	91	4.8	70	60	33
78001	2.25	2.53	4.78	92	2.6	93	89	83
78023	2.57	2.77	5.34	103	2.1	94	93	88
HC14	2.55	2.77	5.32	103	1.7	91	91	75
C735	2.24	2.94	5.18	100	1.9	95	94	90
C729	2.30	2.32	4.62	89	1.6	95	93	91
Mean	2.43	2.58	5.01	97	2.6	85	83	74
LSD(5%)	0.28	0.38		-	0.5	7	9	11
CV(%)	7.9	10.3		-	12.2	5.7	8.0	10.0

<sup>a/</sup> Location: Ashland, WI  
Soil: Ontonagon Silty Clay Loam  
Seeding Method: Broadcast  
Seeded: June, 1978

Design: RCB w/4 reps  
Cuts: Two  
Plot Size: 1.5 X 7.6 m

<sup>b/</sup> Yield: Tons of Dry Matter per Acre

<sup>c/</sup> NA = Northern Anthracnose: 1 = no symptoms; 5 = severe symptoms - over 90% of plants with symptoms; Ratings taken in 1979 at Marshfield, WI.

By Dr R.R. Smith Madison Wisconsin

8100070

Performance of 1980 SEEDED Red Clover Varieties

Marshfield Experiment Station (Exp 8002) <sup>a/</sup>

Strain	Flowering <sup>b/</sup> 10-1-80	Target Spot <sup>c/</sup> 10-1-80
Arlington	2.0	3.0
Kenstar	3.0	4.2
WS756	1.0	2.8
WS 14	1.2	5.0
Prosper I	2.2	4.5
Redland II	3.0	3.8
NAPB 7801	1.0	4.2
NAPB 7802	1.8	3.5
Lakeland	2.2	3.0
Florex	2.8	3.8
Common	3.2	3.5
Redman	2.8	3.5
Ruby	2.8	4.0
Mean	2.2	3.7
LSD(5%)	1.0	1.1
C.V.(%)	11.0	20.8

<sup>a/</sup> Location: Marshfield, WI      Design: RCB w/4 reps  
 Soil: Spencer Silt Loam      Plot size: 0.9 X 7.6m  
 Seeding Method: Drilled 11.2 cm rows  
 Seeded: May, 1980

<sup>b/</sup> Degree of flowering plants: 1 = 1-10%, 2 = 11-20%,  
 3 = 21-30%, 4 = 31-40%, 5 = >41%.

<sup>c/</sup> 1 = no symptoms; 5 = severe symptoms - over 90% of plants  
 with symptoms. Caused by Stemphylium sarciniforme.

By Dr R.R. Smith Madison Wisconsin

OBJECTIVE DESCRIPTION OF VARIETY  
RED CLOVER (*Trifolium Pratense*)

NAME OF APPLICANT(S) North American Plant Breeders	VARIETY NAME OR TEMPORARY DESIGNATION Redland II
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Drive, P. O. Box 2955, Mission, Kansas 66201	FOR OFFICIAL USE ONLY PVPO NUMBER 8100070

Place the appropriate number that describes the varietal character of this variety in the boxes below. Fill unused columns with zeros (e.g.  when number is 99). In comparisons to standard varieties, the value  should only be used to indicate that the varieties are equal. The symbol  $\Delta$  indicates a decimal point. Characteristics described, including numerical measurements, should represent those which are TYPICAL for the variety. Measured data should be for SPACED PLANTS. Any recognized color fan, e.g. Royal Horticultural Colour Chart, may be used to determine plant colors; designate system used: \_\_\_\_\_ . Give location of test area Ames, Iowa. Ranges of values are valuable and may be included with additional description elsewhere in the application.

NOTE: For single plant data a minimum of 100 plants is suggested.

## 1. TYPE:

1 = DOUBLE CUT (medium)      2 = SINGLE CUT (mammoth)      3 = OTHER (Specify) \_\_\_\_\_

## 2. PLOIDY:

1 = DIPLOID      2 = TETRAPLOID      3 = OTHER (Specify) \_\_\_\_\_

## 3. PRODUCTIVE PERSISTENCE (Usual duration of planting):

1 = ANNUAL      2 = BIENNIAL      3 = SHORT LIVED PERENNIAL (3 - 4 Years)

4. ADAPTATION: (e.g.,  = northcentral and southcentral)

1 = NORTHEAST      2 = NORTHCENTRAL      3 = SOUTHCENTRAL  
4 = SOUTHEAST      5 = WEST      6 = OTHER (Specify) \_\_\_\_\_

## STANDARD VARIETIES

1 = KENSTAR      2 = ARLINGTON      3 = PENNSCOTT      4 = TENSAS      5 = ALTASWEDE

## 5. MATURITY:

% PLANTS FLOWERING IN SEEDLING YEAR

## Beginning of spring growth:

DAYS EARLIER THAN.....  STANDARD VARIETY

DAYS LATER THAN.....  STANDARD VARIETY

## Time of flowering (50% of plants in bloom): (from spring growth in non-seedling year)

DAYS EARLIER THAN.....  STANDARD VARIETY

DAYS LATER THAN.....  STANDARD VARIETY

## 6. PLANT HEIGHT (from soil level to top of flowering head at 50% flowering)

CM. TALL       CM. SHORTER THAN  STANDARD VARIETY

CM. TALLER THAN  STANDARD VARIETY

**7. FLOWERING STEM** (from first noncontracted internode, longer than 0.5 cm., to tip of flowering head):

NO. FLOWERING STEMS PER CROWN

NO. INTERNODES

CM. LENGTH OF STEM

**Hairiness:** Give percentage of plants with each type of surface (Total = 100%)

% HAIRS PROJECTING UPWARD

% HAIRS PROJECTING DOWNWARD OR AT RIGHT ANGLES

% GLABROUS (FEWER THAN 5 HAIRS/1 CM. PATH ALONG CENTRAL INTERNODES)

**Habit:** Give percentage of plants with each type of habit. Stem habit should be determined by the angle of lowest stems to the horizontal (soil level) at 50% flowering.

% PROSTRATE

(0 - 30°)

% SEMI-PROSTRATE

(30 - 45°)

% SEMI-ERECT

(45 - 60°)

% ERECT

(60 - 90°)

**8. LEAF** (Central leaflet at 3rd node below flowering head):

MM WIDTH

MM NARROWER THAN .....

STANDARD VARIETY

MM WIDER THAN .....

STANDARD VARIETY

MM LENGTH

MM SHORTER THAN .....

STANDARD VARIETY

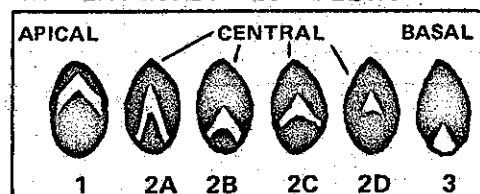
MM LONGER THAN .....

STANDARD VARIETY

**Color:**1 = LIGHT GREEN  
(*Altaswede*)2 = MEDIUM GREEN  
( )3 = DARK GREEN  
(*Hungaropoli*)4 = BLUE GREEN  
( )**Leaf Marking** (at 50% flowering): **NOTE:** Categories below allow for increasingly detailed description of the same data. Diagram illustrates terms: 1 = APICAL 2A = FULL 2B = EXTENDED 2C = DELTA 2D = INCOMPLETE 3 = BASAL**Presence of Mark:** Of total plants, give percentage marked and unmarked (Total = 100%)

% ABSENT

% MARKED

**Position of Mark:** Of total plants, give percentage with leaf mark in each position (Total = % marked, above)

% APICAL

% CENTRAL

% BASAL

**Shape of Mark:** Of total plants, give percentage with central leaf marks having each shape (Total = % marked, above)

% FULL

% EXTENDED

% DELTA

% INCOMPLETE

**9. FLOWER COLOR** (Determine color on freshly opened florets): Give percentage of plants with each color (Total = 100%).

Colors are referenced to the Munsell Color System.

% WHITE

% LIGHT PINK (5RP 8/4)

% MEDIUM PINK (5RP 7/6)

% DARK PINK (5RP 6/8)

% RED (5RP 5/10)

% OTHER (*Specify*)

10

10. SEED COLOR: Maximum color development in unstored, mature seed (at beginning of calyx browning). Give percentage of plants with each seed color (Total = 100%)

 0  1  7

% YELLOW

 0  3  2

% YELLOW WITH SOME PURPLE

 0  0  3

% PURPLE

 0  4  8

% PURPLE WITH SOME YELLOW

% OTHER (Specify) \_\_\_\_\_ (attach explanation)

11. DISEASE AND INSECT RESISTANCE (0 = not tested, 1 = susceptible, and 2 = resistant). If variety is claimed to be resistant or to show intermediate reaction, substantiating test scores should be attached clearly identifying disease, application variety, check varieties, date and location of test, and range and direction of test scores.

## A. DISEASES:

 0
CROWN ROT (*Sclerotinia trifoliorum*)
 0
ROOT ROT (*Fusarium spp.*)
 2
NORTHERN ANTHRACNOSE (*Kabatella caulivora*)
 0
SUMMER BLACK STEM (*Cercospora zebrina*)
 2
SOUTHERN ANTHRACNOSE (*Colletotrichum trifolii*)
 0
BLACK STEM (*Phoma trifolii*)
 1
TARGET SPOT (*Stemphylium sarcinaeformae*)
 2
POWDERY MILDEW (*Erysiphe polygoni*)
 0
PEPPER SPOT (*Leptosphaeralia trifolii*)
 0
BLACK PATCH (*Rhizoctonia leguminicola*)
 0

RED CLOVER VEIN MOSIAC VIRUS

 0

BEAN YELLOW MOSIAC VIRUS

 0

NEMATODE (Specify) \_\_\_\_\_

OTHER (Specify) \_\_\_\_\_

## B. INSECTS:

 0
CLOVER ROOT BORER (*Hylastinus obsurus*)
 0
CLOVER ROOT CURCULIO (*Sitona hispidula*)
 0
SWEETCLOVER WEEVIL (*Sitona cylindricollis*)
 0
CLOVER SEED CHALCID (*Bruchophagus platyptera*)
 0
LESSER CLOVER LEAF WEEVIL  
(*Hypera nigrostris*)
 0
POTATO LEAFHOPPER (*Empoasca fabae*)
 0
YELLOW CLOVER APHID (*Therioaphis trifolii*)
 0
MEADOW SPITTLEBUG (*Philaenus spumarius*)
 0
CLOVER SEED MIDGE (*Dasineura leguminicola*)
 0
PEA APHID (*Acyrthosiphon pisum*)
 0
CLOVER LEAFHOPPER (*Aceratagallia sanguinolenta*)
 0

OTHER (Specify) \_\_\_\_\_

12. Indicate the variety most closely resembling the application variety for the following:

CHARACTER	VARIETY	CHARACTER	VARIETY
LEAFLET SHAPE	Redland	SEED COLOR	Flare
CUTTING RECOVERY	Redland	LATE SEASON GROWTH	Redland
WINTER HARDINESS	Arlington	PERSISTENCE	Arlington

## REFERENCES:

- Hawkins, R. P. 1953. Investigations on local strains of herbage plants II. Types of red clover and their identification. J. Brit. Grassland Soc. 8, 213-218.  
Williams, R. D. 1927. Red clover investigations, 1919 - 1926. Welsh Plant Breeding Station Bull., Ser. H. No. 7.

COMMENTS: (If additional space is necessary, use reverse side)

//

BILL OF SALE AND ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS that AGRIPRO BIOSCIENCES INC., a Delaware corporation (hereinafter referred to as "Seller"), pursuant to that certain Asset Purchase Agreement of even date herewith by and between Seller and AGR ACQUISITION CORPORATION, a Delaware corporation (hereinafter referred to as "Buyer") and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, convey and deliver unto Buyer, all of Seller's right, title and interest in and to the plant varieties owned/registered by Seller and more particularly set forth on Exhibit A attached hereto for which PVP Certificates have been issued by or may be pending before the U. S. Department of Agriculture.

TO HAVE AND TO HOLD UNTO PURCHASER, its successors and assigns forever.

IN WITNESS WHEREOF, Seller has executed this Bill of Sale and Assignment as of the 30th day of June, 1994.

AGRIPRO BIOSCIENCES INC.

BY: W.A. Zama  
Title: President

STATE OF KANSAS, COUNTY OF JOHNSON

Before me, the undersigned, a Notary Public of the State and County aforesaid, personally appeared W.A. ZAMA with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who, upon oath, acknowledged himself to be the PRESIDENT of Agripro Biosciences Inc., the within named bargainer, a corporation, and that he as such PRESIDENT, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as PRESIDENT.

WITNESS my hand and Notarial Seal at office the day and year above written.

Alma M. Weaver  
Notary Public

My Commission Expires:

June 22, 1998

ALMA M. WEAVER

NOTARY PUBLIC

STATE OF KANSAS

My Appt. Exp.

June 22, 1998

Office of the Secretary of State

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I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "AGR ACQUISITION CORPORATION", CHANGING ITS NAME FROM "AGR ACQUISITION CORPORATION" TO "AGRIPRO SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF JUNE, A.D. 1994, AT 4:30 O'CLOCK P.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



*Edward J. Freel*

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SECRETARY OF STATE  
AUTHENTICATION:

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DATE:

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CERTIFICATE OF AMENDMENT  
OF  
CERTIFICATE OF INCORPORATION  
OF  
AGR ACQUISITION CORPORATION

AGR Acquisition Corporation, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: that the Board of Directors of said corporation, by the unanimous written consent of its members filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of said corporation:

RESOLVED, that the Certificate of Incorporation of this corporation be amended by changing the Article thereof numbered "ARTICLE I" so that, as amended, said Article shall be and read as follows:

"ARTICLE I

Name

The name of the corporation (hereinafter called the 'Corporation') is Agripro Seeds, Inc."

SECOND: That in lieu of a meeting and vote of stockholders, the sole shareholder of the corporation has given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

FOURTH: That the capital of said corporation shall not be reduced under or by reason of said amendment.

IN WITNESS WHEREOF, said AGR Acquisition Corporation has caused this certificate to be signed by Gary T. Hancock, its President, and attested by Ann Steelman, its Secretary, this 30<sup>th</sup> day of June, 1994.

AGR ACQUISITION CORPORATION

BY: Gary T. Hancock  
Gary T. Hancock, President

ATTEST:

BY: Ann Steelman  
Ann Steelman, Secretary